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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/783,387	06/04/2004	Richard Zagrobelny	8060/498	6410

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EXAMINER	
SMITH, JOHNNIE L	

ART UNIT	PAPER NUMBER
2881	

DATE MAILED: 03/10/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/783,387	ZAGROBELNY, RICHARD	
	Examiner	Art Unit	
	Johnnie L. Smith II	2881	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *13 December 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-15* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-15* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *1012*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claims 1-15 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

4. Claims 1-5, 8-12 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over US patent 6,451,202 (Kuennen et al) in view of US patent 3,894,236 (Hazelrigg). In reference to claim 1, Kuennen teaches an apparatus for irradiation of a fluid with UV light comprising a tubular body formed of a material which is UV-permeable, said tubular body including an inner surface defining a fluid chamber, and an open first end and an open second end for ingress and egress of the fluid through said fluid chamber; a radiation source for producing UV light so arranged relative to said tubular body to subject said fluid chamber to the UV light, an active cooling feature for cooling the radiation source; and a reflector arranged relative to said radiation source to direct light emitted from said radiation source toward said fluid chamber (column 9 lines 8-14, column 12 lines 53-67). Kuennen fails to clearly disclose a heat dissipating elements disposed on an outside of said reflector; such an element is disclosed in the teaching of Hazelrigg (fig 4). It would have been obvious to one of ordinary skill in the art to modify the disclosure of Kuennen with the teachings of Hazelrigg, since it is taught in the reference of Hazelrigg to use such fins for the purpose of providing external cooling (column 6 lines 44-47).

5. In reference to claims 2-4, Kuennen shows an apparatus wherein said tubular body is oriented vertically; wherein said radiation source is a pair of parallel UV

lamps; and wherein said pair of parallel UV lamps are positioned on opposite sides of said tubular body (figure 5).

6. In reference to claim 5, Kuennen teaches an apparatus wherein said active cooling feature includes a heat sink, said heat sink being positioned in operative contact with said radiation source (column 12 lines 53-67).

7. In reference to claim 8, Hazelrigg teaches an apparatus wherein the said heat dissipating elements are oriented vertically (fig 4, column 6 lines 44-47).

8. In reference to claims 9, Kuennen teaches an apparatus for irradiation of a fluid with UV light comprising: a tubular body consisting of a material which is UV-permeable, said tubular body including an inner surface defining a fluid chamber, an open first end and an open second end for ingress and egress of the fluid through said fluid chamber, and a radiation source having a first end and a second end opposite said first end, for producing UV light so arranged relative to said tubular body as to subject said fluid chamber to the UV light, wherein said first end includes a filament and said second end is actively cooled (column 9 lines 8-14 and figure 5).

9. In reference to claims 10 and 11, Kuennen teaches an apparatus wherein said first end is oriented adjacent an upper end of said tubular body and said second end

is oriented a lower end of said tubular body and wherein said radiation source is a pair of UV lamps (figure 5).

10. In reference to claim 12, Kuennen teaches an apparatus wherein each of said pair of UV lamps includes a respective heat sink positioned in contact with said second end (column 12 lines 53-67).

11. In reference to claim 15, Kuennen teaches an apparatus having a sensor to sense fluid flow through said apparatus and generate a signal based on the fluid flow, said signal being used to control said filament (column 19 lines 43-56, column 14 lines 32-40, figure 38).

12. Claims 6, 13 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over US patent 6,451,202 (Kuennen et al) in view of US patent 3,894,236 (Hazelrigg) in further view of US patent 5,622,622 (Johnson). In reference to claims 6 and 13, Kuennen, in combination with Hazelrigg discussed above, teaches all elements upon which the said claims depend, but fails to clearly show the apparatus having one or more fan positioned so as to direct airflow onto said heat sink of each of said pair of UV lamps. Such teachings are found in the disclosure of Johnson (column 3 lines 50-62). It would have obvious to one of ordinary skill in the art at the time of the invention to incorporate the teaching of

Johnson into the disclosure of Kuennen since Johnson teaches allowing air circulation around the lamps to prevent overheating.

13. In reference to claim 14, Kuennen teaches an apparatus wherein a heat conductive material is provided between each respective said heat sink and said UV lamp (column 12 lines 53-67).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Johnnie L. Smith II whose telephone number is 571-272-2481. The examiner can normally be reached on Monday-Thursday 7-4 P.M. and Alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John R. Lee can be reached on 571-272-2477. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JLSII

Johnnie L Smith II
Examiner
Art Unit 2881

JOHN R. LEE
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800